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No. 8

Bilious Remittent Fever

Passed March 22d 1824
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An

Inaugural Dissertation

on the

Bilious Remittent Fever.

As it appeared along the Banks of Schuylkill, and in the Great Valley of Chester County, Penna. in the Summer and Autumn of 1822 & 1823.

By

Charles Wayne A. B.

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Introduction.

A probationary thesis being necessary to obtain a degree in medicine, I have attempted in the following pages to investigate the cause and progress, the symptoms, character & treatment of the late Epidemic, which prevailed along the Banks of Schuylkill, and in the Great Valley of Chester County, Pennsylvania, as it is incumbent on those who profess the means of making observations on those diseases, which prevail in the districts in which they reside, to collect and describe with fidelity all the facts which are connected with it, and particularly those which have lately "ravaged the fairest portions of our Country."

Therefore all I will attempt to lay before you is, the result of observation made on the same disease at different times and in different situations, and which is the only correct way of acquiring a knowledge of its causes & nature, so as to estab=

lish a proper mode of treatment

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History of the Epidemic &c.

Amongst the earliest cultivators of medical science, certain states & conditions of the atmosphere were ascribed as powerfully influencing the causes of the production of diseases.

It was mentioned by Hippocrates the "Father of Medicine" to depend on the natural & known causes of change of air, he also speaks of a "divine principle" (Το θειον) to be the cause of fevers:

In a similar manner Dreinebroek mentions the "Seminarium e coelo dimissum" to be the cause of the same diseases.

And the illustrious Sydenham also ascribes this peculiar constitution of the atmosphere, to exhalations arising from the bowels of the earth, for in describing one of the Epidemics in London he says, "That the changes of the constitution depend principally, on some secret & hidden alteration in the bowels of the earth, communicated to the whole atmosphere."

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Such appears to have been the opinion of our fathers in Medicine, concerning the production of fevers. But let us advance into the present age of medical science, and we will find that certain states of the atmosphere termed, "Constitutions," do produce certain grades of fever, arising from vegetable putrefactions, termed marsh miasmata. That these arise from vegetable putrefaction, can be clearly shown from the observations made on the Epidemic.

During the summer and autumn of 1832 & 33, the waters of the Schuylkill were uncommonly low, a large number of logs and slabs, which were formerly covered by the bed of the river, were now exposed to the action of the sun.

We all know that wood remaining some time in water, for a very time, but as soon as it is exposed to the sun it decays very fast.

Below the dam, a large number of rafts & large boats

ground on which a great quantity of vegetable matter was soaked & being exposed to the sun, dried & became necessary in producing miasmata. Besides these a number of swamps & mill dams in the vicinity of Sidney did became perfectly dry from the drought, which commenced early in the Summer & being covered with a luxuriant growth of high & thick grass, which died in the latter end of Summer and being trampled in the mud by the cattle & exposed to the Sun, affords another proof that miasmata is formed in this way. During the continuance of the drought in consequence of the intermittents also of November for a week had been imprisoned, under their thirst was insatiable expedient. The change of temperature & moisture, producing in a manner of days their strength was greatly diminished, - their system left able to resist the action of malignant disease. One is immediately in the vicinity of these dams

and swamps were attended by violent, and with symptoms more malignant. There were also two or three deaths particularly amongst children in this neighbourhood.

Examining this missing contaminate the whole atmosphere, carried over a great extent of country by the winds seems, prior to previous fevers, intermittent fevers.

The common notion of miasmatic emanations is not very well understood by some it is supposed to be composed of sulphuretted hydrogen united with sulphuretted carbon, exhaled from stagnant water, vegetating by others it is supposed to consist of animalcules, produced by the putrefaction of animal or vegetable matter. But all are out in their judgment not one can determine by fact it is or is not the right conclusion and position. That it may come animal or vegetable during putrefactive process

that its impression upon the system is wide and pervading.

The epidemic made its appearance about the first of August along the banks of Schuylkill, extending twelve miles below Norristown, and as far up as Mauch Chunk, in the neighbourhood of the Valley Forge, on the Northern side of the Great Valley (being the first advance of Schuylkill) attacking almost every family.

There were also a few cases in the valley.

It is well known that an intributary of miasmatic effluvia, on exposing, or mining, miasm for a great length of time, and revivifying its supply upon the system, and would cause quicker if he by exposed to these influences, as marked that time, could not strong the death of many persons without being attacked, and even being exposed to some exciting causes, might be induction.

Thus we see over the general condition of the Climate, how man has no power, to shut himself in the prevention of diseases [illegible] of climate, [illegible] from the effect of removing to a distant region.

It was remarked that the change of air and the increase of humidity, [illegible] the disease. Those, using the exposed themselves by sitting in the night air in the sun were more particularly liable to an attack.

There were also different idiosyncrasies which equired the same predispositions to bring them into action: Those were night watchings, anxiety, grief &c.

And the liability to an attack was in a great many instances, caught into action by an improper use of ardent Spirits.

It was remarked that those, among who were not attacked with this fever -- had Dysentery

which generally yielded to the usual remedies.
It is mentioned by the respected medical practitioners, that winds blowing in a certain direction, and attended, moreover, combined with a peculiar state of atmosphere, certain epidemic constitutions, I will proceed to mention the meteorological observations made on the farm of Sir William Harris in the district where the disease prevailed.
The Spring of 1822 was generally cold and backward, we had very little rain in April, May, and June, and generally cold days.
In June the warm weather commenced, the crops of Rye and the harvest was left about a month later than it has been known for many years. In this month Sir William began to prevail along Tekyiller & amongst the tenantry at the valley. Tues, for mean temperature was 75°.
July was generally warm and dry. The Thermo-

water stood at 86° on the 17th, & at 88° on the twentieth, it rained on the three last days of this month, the remittent fever made its appearance this month. Cholera, or bilious remittent also prevailed, there was a pig always seen in the neighbourhood, & was taken up and slung along Schuylkill every morning which disappeared in the middle of the day, the wind generally blowing from the S. W. – mean temperature 82°.

August was warm and dry, the thermometer stood at 88° on the 5th – at 89° on two days. The wind still continuing in the S. W. & W. for three days this month, mean temperature 78°. Bilious fever still increasing.

September was warm & dry, rain only 4 days in this month, the mean temp. 75°. The wind in this month changed from its prevailing one the S. W. to N. E. – in a few days about a month, in

the valley, were attacked with the prevailing fever.

I shall now proceed to make a few remarks in connection with the history of this epidemic.

No class of persons were exempt from this fever, all ages & both sexes were attacked.

The symptoms which generally ushered this fever were languor, heaviness, disinclination to exertion, frequent yawnings & stretchings, rigors which ran up the back, & along the extremities, followed in a few hours by depression, difficulty which continued in two or three hours, during which time the patient complained of pain in the head, back & limbs.

In some cases the patients were attacked with fits resembling those of an hemorrhagic nature, followed by an upright position, stupor, & very immediately prostrated, and some died attended with convulsions, particularly children.

ceed in the [illegible] of the fever. The pains in the head and back & limbs were very severe.

The pain in the back was sometimes so acute as to [illegible] in bed.

The patient complained of [illegible] vomiting, [illegible]; accompanied with a disagreeable taste in the mouth, the tongue was covered with a yellow fur, the eyes became sallow, the respiration full & easy, the pulse full & quick though never hard, there was also great tenderness about the Epigastric region. A great thirst & dry skin always attended this fever. The urine was highly coloured & in its usual quantity.

These symptoms generally continued from four to eight hours, which were succeeded by a relaxed skin & a profuse moisture over the whole surface.

In a number of cases a rash appeared on the third

On fourth day evening, the attack to which generally capped off the other symptoms.

These were generally remitting & had been remitting & remitting for the remitting were diurnal even other days — here were sometimes diurnal & alternating in the same day.

When this fever did not terminate on the third or fourth day it assumed a typhoid character, which was on something to the seventh or fourteenth day and which was generally known in the days as assuming a dry, smooth & glossy appearance, and afterwards covered by a dark brown crust.

The symptoms in this stage of the fever were generally attended with delirium, which lasted for six or eight hours, when then abated with a sweat which diffused over the whole body.

These were generally the results of the typhoid tendency to the original exciting cause.

I shall now detail the method pursued in the treatment of this fever.

Desired to cleanse, this fever our first attention was to cleanse the alimentary canal, and experience has proved to us that our first remedy should be an Emetic, unless it be under an advanced state of pregnancy, or a habitual predisposition to vomit blood; there was always a great accumulation of bile & other acrimonious matter which aggravated every symptom.

Sometimes the disease was removed entirely by giving an Emetic in the forming stage; In all cases where there was much nausea, purges did no good effect, for they were generally rejected; but in all cases when the Emetic was given, it never failed to throw up a great quantity of bile which generally relieved the patient very much of all his symptoms, particularly the pain in the head, which in some cases was very distressing; It also

produced a determination to the surface, and the constitution, the extreme nausea which, could be very beneficial.

As the stomach the chief seat of the disease, has a strong sympathy with the whole system its beneficial effect would be diffused, which being completely cleansed, he would on recovering, a more distinct remission than was before.

It appeared use of great service when nothing was thrown up besides the emetic tartar & the water, the grains of emetic tartar was put in some tab spoonfuls of water, one of which was given to adults every half hour until it commenced operating, then the emetic was thrown aside and the vomiting promoted by drinking copiously of warm water.

Exhibited in this manner it generally proved both emetic and cathartic & effectually cleansing the whole alimentary canal of its accumulated load.

If the remedy failed to open the bowels, I generally prescribed purges of rhubarb and jalap which never failed to bring away much stools & a highly bilious tattoo, which afforded great relief to the patient. In some cases, where remedies were thought to be too mild, or when there was purgative ice against them, the bile was discharged entirely by purges & this result, I afterwards kept the bowels open by laxatives & enemas.

Active cathartics given in the last stage of this disease always produced a return of the fever, & endangered the life of the patient.

After evacuating the contents of the stomach & bowels, the most effectual way to excite a general perspiration, for this purpose was use of small doses of ipecac, calomel and tartar emetic, which after allaying violent action, and relaxing the skin & had the desired effect of changing the complaint to a milder form. In some cases it left the bowels open

And discharged the use as fast as it was accumulated.
The mixture recommended to patients in this stage of the disease were, Sulphur. Sage & Chamomile tea best. Water, weak lemonade, lemonade & white water, wine whey &c.
In a great number of cases the fever terminated on the third & fourth with a profuse perspiration, covering the patient from head to foot, his fever remaining mild.
After this distinct intermittent had been formed the Medicine was then given, and in extra quantities, and amongst those which were given to the highest and strong was wine & other cordials.
In the Chronic of 1822 it was found to terminate in fever in a few days, then in the strengthen the system, that is were given after it was a complete determination, but if the patient might be completely moved, called to the hospital and in 3 or 4 days at most, were so completely broken down as to be

tonic, as administration, the action, for in some cases it was given to the amount of two three pints without producing any good effect in order to prevent the intoxication was to give a moderate quantity of strong tea. This form is some time in coming until the pulse cleared, then the bark was given as stated. The febrile medicine ceased, at the next intermission. The bark was resumed, according to circumstances until the fever terminated entirely. When the bark in substance could not be retained, I prescribed the Bark tea as it was called, & in most cases answered very well, it was generally made by pouring a pint of boiling water on a half an ounce of the best red bark, to which cloves & ginger was added to make it more agreeable to the stomach, — a wine glasful was given to adults every hour during the intermission. In some cases the same was repeated in every four

By the mouth.— Here Enema of bark proved succ-
-essful.— I principally relied on this mode of treat
ment in cases of Children.

In the Epidemic of 1823 I used [illegible] of
Quinine in obstinate cases with great success and
it will be found to be an invaluable [illegible]
to remove its very [illegible] — the most irrit
able stomach, & being so easily taken & making so
much stronger impression upon the stomach with
a smaller quantity.

I generally, [illegible] it, by containing one
grain each, one of which was given [illegible]
[illegible] and [illegible] ten pills were sufficient to cure [illegible]

The Oxymuriate (or muriatic acid) was very much used
by some families, as a substitute for the Peruvian
Bark, — it may be justly ranked one of the best
articles of our materia, in some cases it proved more
successful than the Cinchona, as yet I believe

the other native herbs found in the United States to answer the purpose of tonic as well as the China root.

I generally prescribed it in the form combined with the bark of the root of the Prickly Ash or the common Sassafras of our country in the following manner — I recommend ℥iv of the Prickly Ash Bark. ℥ij of the root of Sassafras to be put into two quarts of water & boiled down to a quart, and a wine glassful was given every two or three hours.

If the fever continued beyond the third or fourth day, I always had recourse to Quinine, which when administered in the usual manner produced a most excellent effect; if I gave it, in an intermission, two more were applied to the wrists — almost always it produced an excellent effect, or an intermission the day after was effected.

If the fever did not yield to Blisters, it assumed a typhus character, & nothing answered so well in these cases as Dovers powders, repeated once every three hours aided by wine whey and the vapour bath, and continued until sweating was induced, which was kept up for some time, and if properly attended too the patient always recovered.

As co-operating means, I prescribed the Bark combined with some aromatic, Madeira wine, hot toddy, Brandy & water &c.

If these means failed & the pulse sinking, Sinapisms, fictions with Brandy & Cayenne pepper, or Spts. of Turpentine were used with the greatest possible advantage.

Venesection was not demanded in any case which came under my notice, nor did the Pulse indicate any signs of inflammation.

Convalescence was marked by several extraordinary

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Symptoms, some complained of a bitter taste in the mouth, others of nausea & a total want of appetite.

A weakness of the knees was a constant attendant during convalescence.

To remove these symptoms, I gave the Tincture of Bark, & Elixir of Vitriol in frequent doses.

Great advantage was derived from oysters, and a liberal use of Porter when they could be procured.

The